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Volpe Center Year in Review 2009

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Multimodal Systems Research and Analysis

The Multimodal Systems Research and Analysis Center of Innovation (COI) contributes to the realization of an integrated multimodal national transportation system. We support the development, management, operations, and financing of multimodal infrastructure. We also identify and evaluate solutions to capacity problems, particularly those concerning modal transfer sites. Our work enables decision-makers in government and industry to understand tradeoffs between competing goals in order to deliver a worldclass transportation system that ensures people and goods will reach their destinations safely, on time, and with minimal environmental impact.

Laying the Groundwork for New Connections Among Transit Providers

In alignment with national policy directives, transit and planning agencies across the country are deploying regional-level Intelligent Transportation Systems (ITS) technology. This technology accommodates projected population growth and increased transportation service needs. The majority of U.S. metropolitan planning regions have developed ITS architectures, or planning frameworks, for the broad range of public and private stakeholders in each region. The ITS architectures provide guidance on how the agencies can collaborate to develop, apply, and connect various transportation technologies to create agencywide and regional systems. As the Federal Transit Administration (FTA) facilitates the coordination and integration of the goals and activities of diverse transit stakeholders, it has engaged the Volpe Center to provide key technical support.

The Volpe Center team is reviewing and cataloguing data from the over 3,100 transit service providers that it has identified to date. The team is also developing a concise report with recommendations for how FTA regional offices can further support the effective interlinking of these numerous and varied transit services.

At the end of this project, FTA will disseminate Volpe Center-compiled booklets that list the public transportation service providers by county, State, and region as well as by applicable ITS architectures. In addition, it will provide a summary of the level of involvement and use of the regional ITS architectures.

With the cataloguing of public transportation agencies operating in the United States, FTA can better serve agencies seeking the appropriate type and level of technologies to become more accessible, integrated, efficient, and flexible. *(Sponsored by FTA)*

Chicago Metropolitan Agency for Planning Advances Regional Vision Through Strategic Guidance on Transportation

The Volpe Center has been providing strategic advice to the Chicago Metropolitan Agency for Planning (CMAP) in its comprehensive planning campaign for metropolitan Chicago, GO TO 2040. The GO TO 2040 campaign is intended to enhance regional decision-making about quality-of-life issues, including transportation, jobs, and education. The Volpe Center team has assisted CMAP in designing scenarios for stakeholders to use in evaluating alternative futures for the Chicago metropolitan area. We have delivered six "action strategy" papers, on the following topics based on the best practices of peer organizations: climate change and energy, goods movement, security/energy management, public-private partnerships, alternative fuels and advanced vehicle technologies, and interregional transportation. CMAP has used the recommendations in these papers to refine alternative future scenarios. The Volpe Center team also has advised CMAP on how to develop evaluation measures for major capital projects and has summarized innovative applications for transportation performance indicators. Four complementary strategic documents highlight the breadth and depth of GO TO 2040:

- Development of Evaluation Measures for Major Capital Projects: Measures that CMAP can employ to evaluate major capital projects, including consideration of Federal transportation funding eligibility.
- Climate Change and Energy Strategy Paper: Volpe Center team compilation and recommendation of a synthesis of other organizations' best practices to aid CMAP in designing effective climate- and energy-related initiatives.
- Innovative Applications for Transportation Performance Measures by Peer Agencies: Case studies that highlight translatable practices for using data to track achievement of performance goals.
- Interregional Transportation Planning Action Strategy Paper: Best practices that CMAP might adopt in order to assume a strategic and effective role in interregional transportation partnerships.

CMAP seeks innovative, multidisciplinary approaches to identify and implement transportation solutions. These solutions reflect the full range of factors affecting success, a directive well aligned with the Volpe Center's expertise. Joint projects cover a broad range of topics, and the technical



Cycling infrastructure is often key in creating livable communities. (Image courtesy of Bernardo Baranda, ITDP)

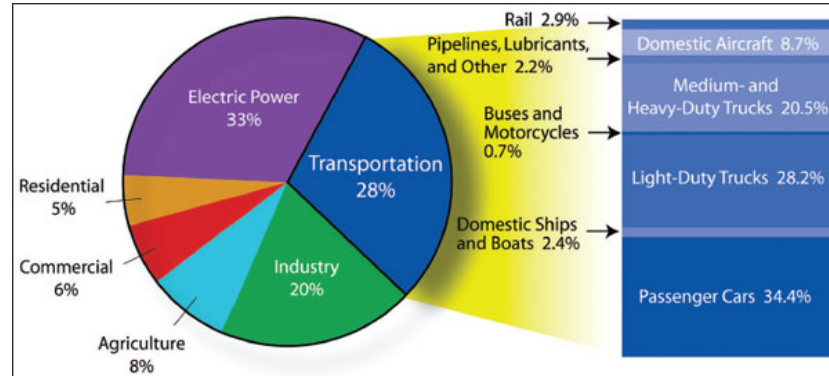


Aerial view of Chicago. (Image courtesy of Wikimedia Commons/Towpilot)

factors affecting success, a directive well aligned with the Volpe Center's expertise. Some projects cover a broad range of topics, and the technical and organizational support that the Volpe Center provides advances the missions of CMAP and U.S. DOT. (Sponsored by CMAP)

Volpe Center Supports Federal Interagency Group on Transportation, Land Use, and Climate Change

Both the nation and the Federal government face enormous challenges in confronting climate change and greenhouse gas emissions (GHG). A number of Federal agencies share responsibility for identifying and mitigating the contributing factors to climate change/GHG emissions and their impact on society. The Federal Highway Administration (FHWA) sought the Volpe Center's assistance in strengthening this interagency coordination. FHWA also laid the groundwork for the formation of the Federal Interagency Working Group on Transportation, Land Use, and Climate Change. The group aligns Federal programs and resources to support stakeholders in achieving greenhouse gas reductions through land-use and transportation-planning decisions. These decisions have resulted in a reduction in vehicle-miles traveled by cars and trucks. The Volpe Center has been providing facilitation and analytical support to the Working Group.



U.S. GHG emissions in 2007. (Image courtesy of EPA)

Today, more than a dozen departments and agencies from the Departments of Agriculture, Commerce, Energy, Housing and Urban Development (HUD), Interior, and Transportation (DOT), as well as the Environmental Protection Agency (EPA), participate in the Working Group's activities. Agency representatives meet monthly to develop and pursue cooperative activities that support improved land-use planning, and to coordinate multimodal travel demand management, and natural resource conservation practices. The Working Group also coordinates new activities, such as DOT's Livability Initiative and the joint HUD/DOT/EPA Sustainable Communities Partnership.

The Working Group developed an action and strategies plan, which was presented to the members of its senior management at a summer 2009 meeting in Washington, DC. The plan focuses on two key areas that the Working Group has identified: integrated regional planning and development, and intermodal gateway mobility planning. (Sponsored by FHWA)

Study Aims to Improve Transit on Long Island

Local town officials from the eastern Long Island towns of Southampton, East Hampton, Riverhead, Southold, and Shelter Island jointly commissioned the Volpe Center to analyze options to improve regional bus and rail service. This was in response to a suggestion from the local transportation advocacy group, Five Towns Rural Transit, for enhanced transit service in the region. The Long Island Railroad provides commuter rail service connecting the region with western Long Island and New York City. Suffolk County Transit provides local bus and paratransit service.

For this project, the Volpe Center developed a feasibility study that includes two main concepts. The first concept is termed the coordinated rail-bus concept and is based on a significantly expanded local bus network that connects buses to local rail stations. A number of train stations would need to be reopened or upgraded and a significant number of new buses procured. Total concept costs could reach \$175 million. The second concept is less expensive and would phase in upgrades and service expansions on the basis of demand. Point-to-point bus service would be emphasized, and rail service would be improved within the constraints of the existing rail infrastructure.

This year, the Volpe Center presented results from its analysis of two concepts for improved public transportation on the East End of Long Island. Various groups attended the summit, including representatives of the five East End towns and regional transportation agencies, local elected officials, transit advocates, and other stakeholders. The Volpe Center is continuing its analysis in concert with the local community. This includes a review of environmental issues and a proposed management structure for the service. (Sponsored by Town of Southampton, NY)



A typical Long Island Railroad commuter rail platform, Southold Station. (Volpe Center Image)

Volpe Center Supports High-Priority, High-Speed Intercity Passenger Rail Activities

Following the passage of the landmark American Recovery and Reinvestment Act (ARRA) of 2009, the Volpe Center team worked closely with the Federal Railroad Administration (FRA) to implement the new High-Speed Intercity Passenger Rail (HSIPR) grant program. With \$8 billion in ARRA funds for grant awards, HSIPR represents a unique opportunity to impact the intercity passenger rail mode and is a very high-priority activity for U.S. DOT. The Volpe Center supported FRA in planning the application evaluation process and participated in the eligibility and merit evaluation panels. The Volpe Center had primary responsibility for developing evaluation criteria and norms and for designing the guidebooks and forms used by the evaluation panels. Twelve Volpe Center team members from various divisions in three COIs—Multimodal Systems Research and Analysis, Energy and Environmental Systems, and Physical Infrastructure Systems—participated as panel members and subject-matter experts in determining eligibility and in the merit evaluations of over 250 grant applications.

Closely related to the HSIPR work was the Volpe Center's support to FRA in its activities mandated in the Passenger Rail Investment and Improvement Act of 2008. The Volpe Center team was involved in the development of metrics and standards for assessing the performance of Amtrak routes. The Center also represented FRA at an American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on Rail Transportation special workshop for developing a standardized approach to estimating benefits from investments in rail projects. The workshop was part of AASHTO's 2009 National Meeting. Its goal was to facilitate the sharing of perspectives between FRA and state partners, since they have complementary roles in implementing recent rail legislation. *(Sponsored by FRA)*

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